

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: YENNY V.R. GONZALEZ ET AL. Docket No.: 00-340

Serial No.: Examiner :

Filed : Art Unit :

For : POLYMER-ENHANCED FOAMABLE
DRILLING FLUID

8.7.8
3/11/02
#2

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INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents and Trademarks
United States Patent and Trademark Office
Washington, DC 20231

Dear Sir:

In accordance with the requirements of 37 C.F.R. 1.97 and 1.98, Applicants hereby submit the prior art documents listed hereinbelow, copies enclosed.

1. U.S. Patent No. 4,013,568, Patented March 22, 1977, By Fischer et al., for COMPOSITION AND METHOD FOR DRILLING FORMATIONS CONTAINING GEOTHERMAL FLUID. This reference relates to a composition and method for drilling a well into a subterranean formation containing a geothermal fluid utilizing a gas-containing aqueous drilling fluid containing both lignite and a salt of a high molecular weight acrylic polymer.
2. U.S. Patent No. 4,088,583, Patented May 9, 1978, By Pyle et al., for COMPOSITION AND METHOD FOR

DRILLING HIGH TEMPERATURE RESERVOIRS. This reference relates to a composition and method for drilling a well into a high temperature subterranean reservoir, such as one containing a geothermal fluid, wherein there is used an aqueous foam drilling fluid containing (1) water, (2) gas, (3) a foaming agent, (4) an erosion and corrosion inhibitor, (5) a water-soluble or water-dispersible carboxyalkyl cellulose ether or polyalkylene oxide polymer which both controls the fluid loss of the foam and toughens its, and, optionally, (6) a bit lubricant and/or (7) an anti-torqueing agent.

3. U.S. Patent No. 5,495,891, Patented March 5, 1996, By Sydansk, for FOAMED GEL EMPLOYED AS A DRILLING FLUID, A LOST CIRCULATION FLUID, OR A COMBINED DRILLING/LOST CIRCULATION FLUID. This reference relates to a process employing a foamed gel in a wellbore as a drilling fluid, lost circulation fluid, or combined drilling/lost circulation fluid during the wellbore drilling operation. The foamed gel is formed from a crosslinkable carboxylate-containing polymer, a crosslinking agent containing a reactive transition metal cation, a surfactant, an aqueous solvent, and an added gas.

4. U.S. Patent No. 5,513,712, Patented May 7, 1996,

By Sydansk, for POLYMER ENHANCED FOAM DRILLING FLUID. This reference relates to a process for employing a polymer enhanced foam in a wellbore as a drilling fluid during a wellbore drilling operation.

The polymer enhanced foam is formed from an uncrosslinked acrylamide polymer, a surfactant, an aqueous solvent, and an added gas.

5. U.S. Patent No. 5,591,701, Patented January 7, 1978, By Thomas, for ITERATED FOAM PROCESS AND COMPOSITION FOR WELL TREATMENT. This reference relates to the removal of particulates from a wellbore, such as in air drilling for hydrocarbon recovery, a mixture of an amphoteric foaming agent and, typically, an anionic surfactant is employed. An aqueous solution thereof having a pH of at least 9.5 is used to generate a foam for removing the particulates; then the foam is collapsed by the introduction of acid to reduce the pH below about 4, the particles are removed mechanically, the pH is restored to greater than 9.5, and the foaming solution is returned to the wellbore. The solution may be used several times; partial losses of foaming agent in the process may be easily replenished with each cycle. Cationic surfactants may be used instead of anionic, with foaming and foam collapsing

being controlled at opposite pH's. Savings are realized in water, drilling chemicals, and settling pits and the like for removing particulates from the foam.

6. U.S. Patent No. 5,716,910, Patented February 10, 1998, By Totten et al., for FOAMABLE DRILLING FLUID AND METHODS OF USE IN WELL DRILLING OPERATIONS. This reference relates to a foamed drilling fluid composition for well drilling operations including a prehydrated clay; water; a foaming surfactant present in an amount sufficient to foam the drilling fluid; a stabilized surfactant present in an amount sufficient to reduce breakdown of the foamed drilling fluid; a gas present in an amount sufficient to foam the drilling fluid; and a hydraulic material.

7. U.S. Patent No. 5,821,203, Patented October 13, 1998, By Williamson, for FOAMED DRILLING FLUIDS, THEIR PROCESS FOR PREPARATION AND THE CORRESPONDING DRILLING METHOD. This reference relates to an aqueous foamed Drilling Fluid for drilling well bores into a subterranean formation, including water, at least one clay and at least one foaming agent. According to the invention, it further

includes at least one metal hydroxide. The invention further relates to a method for preparing said foamed drilling fluid.

8. U.S. Patent No. 5,851,960, Patented December 22, 1998, By Totten et al., for METHOD OF PERFORMING WELL DRILLING OPERATIONS WITH A FOAMABLE DRILLING FLUID. This reference relates to a method of performing drilling operations including the steps of: drilling a wellbore; providing a foamable drilling fluid including a prehydrated clay, water, a foaming surfactant present in an amount sufficient to foam said drilling fluid, a stabilizing surfactant present in an amount sufficient to reduce breakdown of said drilling fluid when foamed, and a hydraulic material; foaming said drilling fluid; and circulating said foamed drilling fluid in said wellbore.

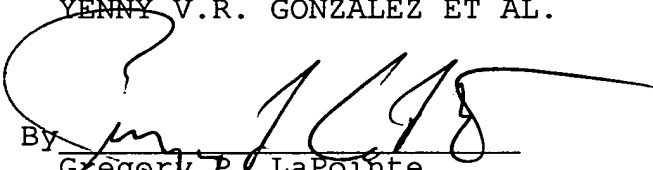
Copies of the foregoing patents are enclosed herewith along with a listing on form PTO-1449.

The undersigned submits the above-identified references for independent consideration by the Examiner and does not make any admission that these references are or are not material to the present invention or that these references are or are not prior art with respect to the present invention.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184. A duplicate copy of this paper is enclosed herewith in connection with any deposit account charge.

Respectfully submitted,

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Date: August 28, 2001

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231

on August 28, 2001

(Date of Deposit)
Janice T. Staton

Name and Reg. No. of Applicant

Signature

Date of Signature

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